

ANNUAL COMPLIANCE REPORT OF MISSOURI PUBLIC WATER SYSTEMS



Jefferson County Water Authority Treatment Plant



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

2019

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Summary

In Missouri, the Public Drinking Water Branch of the Missouri Department of Natural Resources is responsible for implementing the Safe Drinking Water Act to assist the state's 2,741 public water systems in providing safe drinking water. The department establishes regulatory limits and monitors for 91 different chemical and microbiological contaminants in public water supplies. This report provides information on how well Missouri's public water systems are meeting these standards.

This report is the 24th Annual Compliance Report produced by the department. It contains compliance statistics for Missouri's public water systems for calendar year 2019. The report shows that 90.1% of Missouri's population served by a community public water system, received water that met all health-based standards during this period, compared to 2018, when the percentage was 98.8 %. The lower compliance percentage for 2019 was caused primarily by historic flooding, which produced unprecedented and unanticipated conditions at several system, including one of Missouri's largest. In most cases, the flooding- related violations persisted for less than a month. Without the flooding-related impacts, Missouri's percentage for 2019 would have been 98.8 %.

The department prepares this report annually to comply with statutory obligations of the federal Safe Drinking Water Act, and to provide the public with a better understanding of the importance of safe and abundant drinking water. The department will provide this report to the U.S. Environmental Protection Agency, who will use the information to prepare a national report on the performance of the nation's public drinking water systems.

What is a Public Water System?

A public water system provides drinking water through piping or other constructed conveyances for human consumption to at least 15 service connections, or serves an average of at least 25 people for at least 60 days each year.

There are three types of public water systems:

1. **Community systems** include towns, water districts, subdivisions, mobile home parks and residential facilities, such as nursing homes or prisons.
2. **Nontransient noncommunity systems** regularly serve the same 25 people at least six months per year. Examples include schools and factories.
3. **Transient noncommunity systems** serve at least 25 people per day, at least 60 days of the year. Examples include restaurants, resorts and campgrounds. These smaller systems are typically located in rural areas where it is not feasible to connect to a municipal water supply or a water district.

The department's requirements for construction, operation, and monitoring for systems vary based on their type, population and source of water. For systems that are not public water systems, such as homes served by private wells local and county health agencies and the Missouri Department of Health and Senior Services facilitate water testing. Data for these private systems is not included in this report.

The Missouri Public Water Universe

In 2019, there were 2,741 active public water systems in Missouri. Of this total, 1,429 were community, 218 were nontransient noncommunity, and 1,094 were transient noncommunity systems.

In 2019, Missouri's community water systems served more than 5 million residents. The Missouri River is the largest source of drinking water for Missourians. The river's abundant supply of water and its proximity to the state's major population centers make it a valuable resource to the communities that draw from it.

Groundwater is the next most common source of drinking water for community water supplies. In southern Missouri, high-quality groundwater is easy to obtain and typically requires very little treatment for use as drinking water.

Public water systems utilizing groundwater as their source serve approximately 38.1 % of Missourians who receive their water from a public water system.

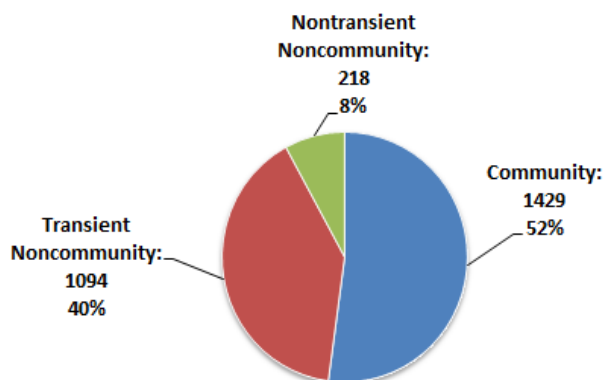
All other public water system customers receive their water from community systems that draw from other types of surface water sources. Particularly prevalent in the northern part of Missouri, these sources include rivers and reservoirs.

Analysis of Compliance

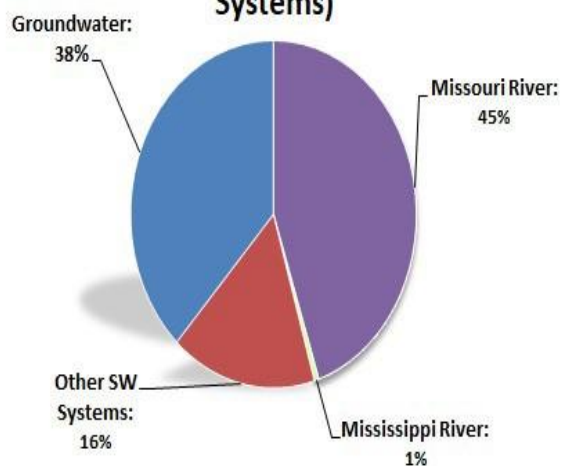
Missouri requires testing for 91 different regulated chemicals and microbiological contaminants on a regular schedule. The Summary of Violations Table in this report counts individual violations by contaminant type. These counts may include multiple violations for the same system, depending on the monitoring schedule for the particular contaminant.

Appendices A and B list specific systems by county that have had violations of different drinking water rules. These rules include the Revised Total Coliform Rule, Radionuclide Rule, Stage 2 Disinfectants and Disinfection Byproduct Rule and the Surface Water

Public Water Systems by Type

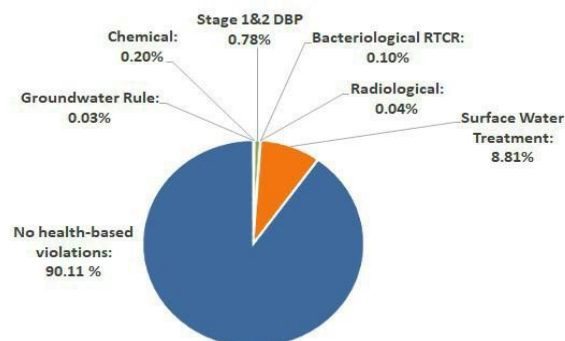


Source of Water (Percent of Population Served by Public Water Systems)



*Population served by alluvial wells are included in the groundwater percentage

Percent Population of Community Water Systems in Violation of Health-based Standards



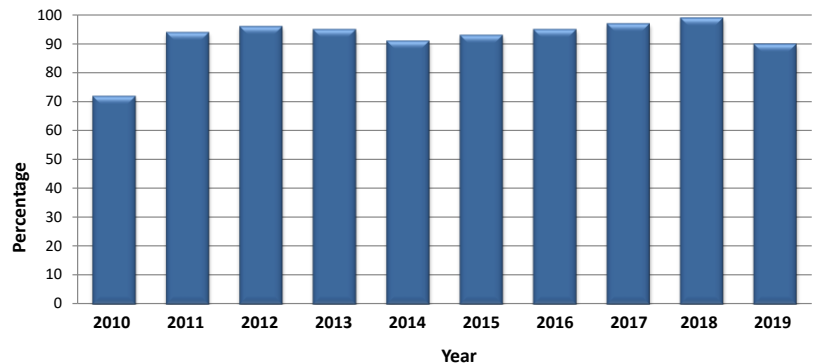
Treatment Rule.

Maximum Contaminant Level (MCL) and treatment technique violations represent the most significant impact on public health. In 2019, 90.1 % of Missouri public water supply customers had water that met all MCL and treatment technique requirements. The Drinking Water Trends Community Systems Chart shows the 10 year trend for this measure. The lower compliance percentage for 2019 was caused primarily by historic flooding, which produced unprecedented and unanticipated conditions at several systems, including one of Missouri's largest. In most cases, the flooding-related violations persisted for less than a month, however because this metric is a rolling average, the one-time drop in compliance is reflected in the subsequent 12 months. Without the flooding-related impacts, Missouri's percentage for 2019 would have been 98.8%.

Because the above measure counts all MCL and treatment technique violations during the year equally, with no consideration given to the duration of the violation, EPA and the states developed an additional compliance measure called "person-months" that represents the population served by community water systems that meet health-based standards on a monthly basis. Missouri achieved 98.6 % compliance with this measure in 2019.

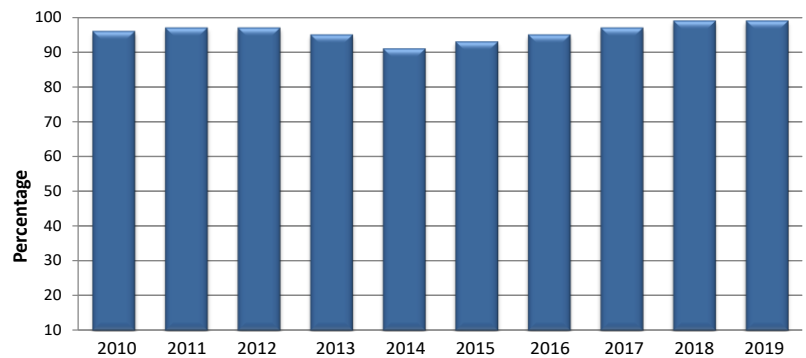
EPA calculates many of the MCL and treatment technique violations-based on chronic, that is, long-term, regular, and consistent exposure. EPA MCL's on acute (short-term) exposure can include turbidity exceedances or E.coli detects. In 2019, the department issued 20 violations for acute contaminants to 19 public water systems, equal to 0.69 % of all Missouri systems. All of these violations were associated with the detection of E.coli.

**Drinking Water Trends Community Systems:
% Population Served Meeting All Health-based Requirements**



The lower compliance percentage for 2019 reflects violations issued to systems impacted by flooding.

% Person-Months Measured



E. coli Acute MCL Violations



How to Find More Information on Your Water System

Community water systems must distribute Consumer Confidence Reports annually to water customers. These reports provide detailed information about sources and levels of contaminants in the drinking water and must list all violations of state and federal requirements for the calendar year. In 2019, 87.1 % of Missouri's community water systems distributed their Consumer Confidence Reports properly. You may obtain a copy of the Consumer Confidence Report for your public water system by contacting your service provider or the department's Consumer Confidence Report website at dnr.mo.gov/ccr/index.html. The department also maintains the Drinking Water Watch website at dnr.mo.gov/DWW/, which provides additional information on all of Missouri's public drinking water systems, including information on inventories, sample results, compliance activities and water quality.

For More Information

Information about Missouri's public water systems can be obtained by writing to the Missouri Department of Natural Resources, Water Protection Program, Public Drinking Water Branch, P.O. Box 176, Jefferson City, MO 65102-0176 or calling 800-361-4827 or 573-751-0124.

Information is also available on the department's website at dnr.mo.gov/env/wpp/dw-index.html.



Explanation of Terms in Violations Tables

The following descriptions apply to the violations table.

Filtered Systems: Water systems that have installed filtration treatment [10 CSR 60-4.050].

Ground Water Rule: A rule (10 CSR 60-4.025) that requires monitoring of groundwater sources for E. coli contamination. It relies on four strategies to address this risk: periodic sanitary surveys, triggered source water monitoring in the case of a positive sample, corrective action for a system found to have a significant deficiency or source water E. coli contamination, and compliance monitoring to ensure the treatment technology is reliable.

Inorganic Contaminants: Non-carbon-based compounds such as metals, fluoride and nitrates. These contaminants are naturally-occurring in some water, but can also enter water through human activities [10 CSR 60-4.030]

Lead and Copper Rule: A rule (10 CSR 60, Chapter 15) to address lead and copper corrosion, which poses health risks when ingested at any level, and can enter drinking water from household pipes and plumbing fixtures. Violations are reported for: failure to monitor, failure to install optimal corrosion control treatment or a source water treatment system that would reduce lead and copper levels in water at the tap, failure to replace lead service lines on the schedule required by the regulation and failure to provide required public education about reducing or avoiding lead intake from drinking water.

Maximum Contaminant Level (MCL): The highest amount of a contaminant allowed in drinking water. MCLs ensure drinking water does not pose a health risk and are defined in milligrams per liter (parts per million) unless otherwise specified.

Monitoring: Sampling and analytical testing specified by the department, including testing methods, and frequency [10 CSR 60-4.010]. Failure to test and failure to report results timely are significant monitoring violations.

Organic Contaminants: Carbon-based compounds, such as industrial solvents and pesticides. These contaminants generally enter water through runoff from cropland or discharge from factories [10CSR 60- 4.040 and 4.100].

Radionuclides: Radioactive particles that occur naturally in water or result from human activity. Safe drinking water regulations set MCLs on five types of radionuclides: radium-226, radium-228, uranium, gross alpha and beta particle/photon radioactivity [10 CSR 60-4.060].

Surface Water Treatment Rule: A series of rules promulgated from 1989-2009 that establish criteria under which water systems supplied by surface water sources, or groundwater sources under the direct influence of surface water, must filter and disinfect their water (Surface Water Treatment Rule, Interim Enhanced Surface Water Treatment Rule, Long Term1 Enhanced Surface Water Treatment Rule, Long Term2 Enhanced Surface Water Treatment Rule) [10 CSR60-4.050and60-4.052].

Treatment Techniques: Enforceable procedures or levels of technological performance that public water systems must follow to ensure control of contaminants for which no MCL is established. For example, EPA established treatment techniques for viruses, bacteria, turbidity, and failure to correct a significant deficiency.

Violation: A failure to meet any state or federal drinking water regulation.

Organic Contaminants: Jan. 1, 2019 - Dec. 31, 2019

		MCL		Treatment Technique		Significant Monitoring/Reporting	
	MCL (mg/L)	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems Violations
Organic Contaminants							
1,1,1-Trichloroethane	0.2	0	.0			25	25
1,1,2-Trichloroethane	0.005	0	0			25	25
1,1-Dichloroethylene	0.007	0	0			25	25
1,2,4-Trichlorobenzene	0.07	0	0			25	25
1,2-DBCP	0.0002	0	0			0	0
1,2-Dichloroethane	0.005	0	0			25	25
1,2-Dichloropropane	0.005	0	0			25	25
2,3,7,8-T CDD (Dioxin)	3x10-8	0	0			0	0
2,4,5-TP	0.05	0	0			7	7
2,4-D	0.07	0	0			7	7
Acrylamide				0	0		
Alachlor	0.002	0	0			0	0
Aldicarb	0.003	0	0			7	7
Aldicarb Sulfone	0.002	0	0			7	7
Aldicarb Sufoxide	0.004	0	0			7	7
Atrazine	0.003	0	0			7	7
Benzene	0.005	0	0			25	25
Benzo[a]pyrene	0.0002	0	0			0	0
BHC Gamma	0.0002	0	0			7	7
Carbofuran	0.04	0	0			7	7
Carbon tetrachloride	0.005	0	0			25	25
Chlorobenzene	0.1	0	0			25	25
Chlordane	0.002	0	0			7	7
cis-1,2-Dichloroethylene	0.07	0	0			25	25
Dalapon	0.2	0	0			7	7
Di(2-ethylhexyl)adipate	0.4	0	0			0	0
Di(2-ethylhexyl)phthalate	0.006	0	0			0	0
Dichloromethane	0.005	0	0			25	25
Dinoseb	0.007	0	0			7	7
Diquat	0.02	0	0			0	0
Endothall	0.1	0	0			0	0
Endrin	0.002	0	0			7	7
Epichlorohydrin				0	0		
Ethylbenzene	0.7	0	0			25	25
Ethylene dibromide	0.00005	0	0			0	0
Glyphosate	0.7	0	0			0	0
Heptachlor	0.0004	0	0			7	7

¹Values are in milligrams per liter (mg/L), unless otherwise specified

* Shaded areas indicate a Violations is not applicable in this category

Organic Contaminants: Jan. 1, 2019 - Dec. 31, 2019

	MCL (mg/L)	MCL		Treatment Technique		Significant Monitoring/Reporting	
		No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations
Heptachlor epoxide	0.0002	0	0			7	7
Hexachlorobenzene	0.05	0	0			0	0
Hexachlorobenzene	0.001	0	0			7	7
Hexachlorocyclopentadiene	0.05	0	0			7	7
Lasso	0.05	0	0			7	7
Lindane	0.0002	0	0			0	0
Methoxychlor	0.04	0	0			7	7
Monochlorobenzene	0.1	0	0			0	0
o-Dichlorobenzene	0.6	0	0			25	25
Oxamyl (Vydate)	0.2	0	0			7	7
Para-Dichlorobenzene	0.075	0	0			25	25
Pentachlorophenol	0.001	0	0			7	7
Picloram	0.5	0	0			7	7
Simazine	0.004	0	0			7	7
Styrene	0.1	0	0			25	25
Tetrachloroethylene	0.005	0	0			25	25
Toluene	1	0	0			25	25
Total PCB	0.0005	0	0			0	0
Toxaphene	0.003	0	0			7	7
Trans-1,2-Dichloroethylene	0.1	0	0			25	25
Trichloroethylene	0.005	0	0			25	25
Vinyl chloride	0.002	0	0			25	25
Xylenes (total)	10	0	0			25	25

Disinfection Byproducts Rule: Jan. 1, 2019 - Dec. 31, 2019

	MCL	MCL		Treatment Techniques		Significant Monitoring/Reporting	
		No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations
Total trihalomethanes	0.80	48	19			26	24
Haloacetic acids	0.60	12	7			26	24
Disinfection byproducts		60	21	0	0	56	26
Total Organic Compounds				7	3		
Insufficient or Non-certified Operator				0	0		

Inorganic Contaminants: Jan. 1, 2019 - Dec. 31, 2019

		MCL		Treatment Technique		Significant Monitoring/ Reporting	
	MCL (mg/L)	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations	No. of Violations	No. of System Violations
Inorganic Contaminants							
Antimony	0.006	0	0	0	0	24	24
Arsenic	0.010	0	0	0	0	24	24
Asbestos	7 million fibers/L	0	0	0	0	0	0
Barium	2	0	0	0	0	24	24
Beryllium	0.004	0	0	0	0	24	24
Cadmium	0.005	0	0	0	0	24	24
Chromium	0.1	0	0	0	0	24	24
Cyanide (as free cyanide)	0.2	0	0	0	0	14	14
Fluoride	4.0	5	2	0	0	24	24
Mercury	0.002	0	0	0	0	24	24
Nitrate	10 (as nitrogen)	0	0	0	0	0	0
Nitrite	1 (as nitrogen)	0	0	0	0	0	0
Selenium	0.05	0	0	0	0	24	24
Thallium	0.002	0	0	0	0	24	24
Total nitrate and nitrite	10 (as nitrogen)	0	0	0	0	53	53

Radiological Contaminants: Jan. 1, 2019 - Dec. 31, 2019

		MCL		Treatment Technique		Significant Monitoring /Reporting	
	MCL (pCi/L)	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations
Radiological Contaminants							
Gross Alpha	15 pCi/L	9	3			13	13
Radium-226 and radium-228	5 pCi/L	18	5			22	22
Gross beta	4 mrem/yr	0	0			0	0
Subtotal		27	5			35	14

Microbiological Contaminants: Jan. 1, 2019 – Dec. 31, 2019

		MCL		Treatment Technique		Significant Monitoring /Reporting	
	MCL Presence/Absence	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations
Revised Total Coliform Rule							
Acute MCL Violations	Presence	20	19				
Level 1 Assessment Violations				14	14		
Level 2 Assessment Violations				1	1		
Treatment Technique, Other				7	7		
Major Routine						481	290
Minor Routine						40	36
Reporting/Notification						2	2
Subtotal		20	19	22	23	523	313

Some systems may have violations in multiple categories.

Surface Water Treatment Rule: Jan. 1, 2019 – Dec. 31, 2019

		MCL		Treatment Technique		Significant Monitoring /Reporting	
	MCL	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations
Surface Water Treatment							
Filtered Systems							
Monitoring, routine/repeat						1	1
Treatment Techniques				5	4		
Unfiltered Systems							
Monitoring, routine/repeat							
Failure to Filter							
Subtotal				5	4	1	1

Lead and Copper Rule: Jan. 1, 2019 – Dec. 31, 2019

		MCL		Treatment Technique		Significant Monitoring /Reporting	
	MCL	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations
Lead and Copper Rule							
Initial lead and copper tap monitoring and reporting						1	1
Follow-up or routine lead and copper tap monitoring and reporting						28	28
Treatment Installation							
Public education				0	0	0	0
Subtotal				0	0	29	29

Public Notification: Jan. 1, 2019 – Dec. 31, 2019

		MCL		Treatment Technique		Significant Monitoring /Reporting	
	MCL	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations
Public Notification						172	117
Consumer Confidence Reports ¹						184	184
Subtotal						356	272

¹ Violations for failure to produce and distribute the Consumer Confidence Report in 2019.

Groundwater Rule: Jan. 1, 2019 – Dec. 31, 2019

		MCL		Treatment Technique		Significant Monitoring /Reporting	
	MCL	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations	No. of Violations	No. of Systems with Violations
Groundwater Rule							
Failure to treat				8	4		
Failure to address contamination				0	0		
Failure to address deficiency				2	2		
Public notice						0	0
Sanitary Survey						4	4
Major routine and follow up monitoring						87	60
Subtotal				10	7	91	63

Appendix A: Health Based Compliance

I. Revised Total Coliform Rule – Acute MCL Violations

The following systems were under boil water orders due to acute MCL violations for E. coli bacteria for the months listed.

County	ID#	System Name	Month(s)	Issue	Rescind
BARRY	MO5031106	RIVERSIDE PARK 2 ND ADD	September	10/4/19	10/18/19
BENTON	MO3210344	DARS CAFÉ	August	8/29/19	9/19/19
BENTON	MO3190902	HEADWATERS MOTEL	July	7/4/19	9/3/19
BENTON	MO3210904	LAKE HILLS MOTEL	September	9/14/19	10/28/19
BOLLINGER	MO4292325	PATTON JUNCTION SERVICES INC	June	6/20/19	6/28/19
CAMDEN	MO3191837	HAWKS NEST CONDO ASSN	October	10/18/19	11/4/19
CAMDEN	MO3212445	MARINERS PIER 31	July	7/10/19	8/5/19
CAPE STORAGE	MO4071647	ENCLAVE APTS & AFFORDABLE MINI	March	3/24/19	4/1/19
CAPE STORAGE	MO4071647	ENCLAVE APTS & AFFORDABLE MINI	August	8/3/19	8/21/19
CARROLL	MO2010578	NORBORNE PWS	September	9/5/19	9/9/19
FRANKLIN	MO6243055	CAMP WOODLAND HILLS	June	6/1/19	6/11/19
FRANKLIN	MO6273242	FRANKLIN BAPTIST ASSN	November	11/14/19	1/9/20
FRANKLIN	MO6048249	SPRING MEADOWS MHP	August	8/19/19	9/12/19
HICKORY	MO5010197	CROSS TIMBERS PWS	February	2/26/19	3/6/19
JASPER	MO5041599	PLEASANT VALLEY MHP	May	5/28/19	7/8/19
MORGAN	MO5301489	BLUE ANCHOR BAY CONDOMINIUMS	August	8/30/19	9/18/19
MORGAN	MO5193232	LAKESHORE CONDOS	June	6/21/19	1/23/20
POLK	MO5010387	HUMANSVILLE PWS	October	10/8/19	10/11/19
PULASKI	MO4031631	RIDGE CREEK WATER CO LLC	November	11/1/19	11/22/19
STONE	MO5191311	BRADFORD INN	May	5/30/19	6/20/19

Appendix A Health Based Compliance

II. Revised Total Coliform Rule: Level 1 and Level 2 Assessment

For the Revised Total Coliform Rule, the following systems have exceeded the coliform treatment technique trigger – triggering an assessment on more than one occasion in 2019. These assessments are triggered for the following reasons: system collecting forty (40) or more samples per month exceeding 5.0% total-coliform positive samples for the month, systems collecting fewer than forty (40) samples per month having two (2) or more coliform-positive samples for the month, failing to collect every required repeat sample after any coliform-positive sample, or incurring an E. coli MCL violation.

County	ID#	System Name	Assessment
BARRY	MO5010730	SELIGMAN PWS	2
BARRY	MO5253262	CORAL FOUNTAIN LAKESIDE ESTATES NO 1	3
BARRY	MO5261623	COUNTRY VILLAGE MHP	2
BENTON	MO1242804	CLEAR CREEK RV PARK	2
BENTON	MO3010400	IONIA PWS	2
BENTON	MO3210344	DARS CAFÉ	2
BENTON	MO3240554	CITY UNION MISSION	2
CAMDEN	MO3071339	TT SEWER	2
CAMDEN	MO5301556	BELLA SERA CONDOS	2
CAPE	MO4071647	ENCLAVE APTS & AFFORDABLE MINI STORAGE	2
CEDAR	MO5010241	EL DORADO SPRINGS PWS	2
CRAWFORD	MO6171255	STEELVILLE RIII HIGH SCHOOL	2
DUNKLIN	MO4024209	SYLVAN MANOR SUBD	2
FRANKLIN	MO6036085	SPRING MEADOWS MHP	2
FRANKLIN	MO6048249	FRANKLIN BAPTIST ASSN	3
GREENE	MO5036258	EASTBOUROUGH SUBD	2
HICKORY	MO5010197	CROSS TIMBERS PWS	2

HICKORY	MO5213020	PITTSBURG PUB AND PATIO	2
HICKORY	MO5218044	POMME DE TERRES SHADOW LAKE GOLF COURSE	2
JEFFERSON	MO6036271	RAINTREE PLANTATION	2
JEFFERSON	MO6213191	VILLA ANTONIO WINERY	2
LINCOLN	MO6251637	BUELAH LAND ESTATES	2
MILLER	MO3241749	CAMP BAGNELL	2
MONITEAU	MO3024395	MONITEAU COUNTY PWSD 1	2
MORGAN	MO3211033	BUFFALO BENNY'S BAR	2
MORGAN	MO5301489	BLUE ANCHOR BAY CONDOMINIUMS	2
NEWTON	MO5033107	SHADY LANE SUBDIVISION	2
NEWTON	MO5241734	KOA CAMPGROUND	2
OSAGE	MO3010517	META PWS	2
OZARK	MO5211828	OZARK PLAZA MOTEL AND RV PARK	2
PETTIS	MO1283265	CASA INC	2
PULASKI	MO3010219	DIXON PWS	2
PULASKI	MO3010720	ST ROBERT PWS	2
PULASKI	MO4031631	RIDGE CREEK WATER COMPANY LLC	5
STONE	MO5030473	STARLIGHT VILLAGE	2
TANEY	MO5031481	OAKBROOK ESTATES	3
TANEY	MO5171233	MARK TWAIN R VIII ELEMENTARY SCHOOL	2
TANEY	MO5191015	DRIFTWATER RESORT LLC	2
TANEY	MO5211978	AREA 71 BRANSON	2
TANEY	MO5283168	JARRMIC LLC	2
WASHINGTON	MO4010003	CALEDONIA PWS	2
WRIGHT	MO5010351	HARTVILLE PWS	2

Appendix A Health Based Compliance

III. Chemical MCL Violations

County	ID#	System Name	Chemical
BARTON	MO5010446	LAMAR PWS	TOTAL TRIHALOMETHANE (TTHM)
BARTON	MO5010446	LAMAR PWS	TOTAL HALOACETIC ACIDS (HAA5)
BATES	MO1010698	ROCKVILLE PWS	TOTAL HALOACETIC ACIDS (HAA5)
CALDWELL	MO1024079	CALDWELL COUNTY PWSD 2	TOTAL HALOACETIC ACIDS (HAA5)
CALDWELL	MO1024079	CALDWELL COUNTY PWSD 2	TOTAL TRIHALOMETHANE (TTHM)
CASS	MO1010024	ARHIE PWS	TOTAL TRIHALOMETHANE (TTHM)
CASS	MO1010301	GARDEN CITY PWS	TOTAL HALOACETIC ACIDS (HAA5)
CASS	MO1010301	GARDEN CITY PWS	TOTAL TRIHALOMETHANE (TTHM)
CLAY	MO1010546	MOSBY PWS	TOTAL TRIHALOMETHANE (TTHM)
COOPER	MO3010089	BOONVILLE PWS	TOTAL TRIHALOMETHANE (TTHM)
COOPER	MO3024170	COOPER COUNTY CONS PWSD #1	TOTAL HALOACETIC ACIDS (HAA5)
COOPER	MO3024170	COOPER COUNTY CONS PWSD#1	TOTAL TRIHALOMETHANE (TTHM)
GRUNDY	MO2010753	SPICKARD PWS	TOTAL TRIHALOMETHANE (TTHM)
GRUNDY	MO2024237	GRUNDY COUNTY PWSD 1	TOTAL TRIHALOMETHANE (TTHM)
HENRY	MO1021175	HENRY COUNTY PWSD 4	TOTAL TRIHALOMETHANE (TTHM)
HENRY	MO1021175	HENRY COUNTY PWSD 4	TOTAL HALOACETIC ACIDS (HAA5)
HOWARD	MO2010566	NEW FRANKLIN PWS	TOTAL TRIHALOMETHANE (TTHM)
JACKSON	MO1010921	UNITY VILLAGE	TOTAL TRIHALOMETHANE (TTHM)
LAFAYETTE	MO1010184	CONCORDIA PWS	TOTAL HALOACETIC ACIDS (HAA5)
LAFAYETTE	MO1010254	EMMA PWS	TOTAL TRIHALOMETHANE (TTHM)
LAFAYETTE	MO1024326	LAF JO SALINE CO CONSE PWSD 2	TOTAL TRIHALOMETHANE (TTHM)
LINCOLN	MO6024340	LINCOLN COUNTY PWSD 1	FLUORIDE
LINCOLN	MO6030021	CHAMPION FARMS SUBDIVISION	FLUORIDE
MERCER	MO2010515	MERCER PWS	TOTAL HALOACETIC ACIDS (TTHM)
MONROE	MO2010538	MONROECITY PWS	TOTAL HALOACETIC ACIDS (TTHM)
PERRY	MO4024456	PERRY COUNTY PWSD 2	TOTAL HALOACETIC ACIDS (TTHM)
SALINE	MO2010029	ARROW ROCK PWS	TOTAL HALOACETIC ACIDS (TTHM)
SULLIVAN	MO2010329	GREEN CITY PWS	TOTAL HALOACETIC ACIDS (TTHM)

Appendix A Health Based Compliance

IV. Radiological MCL Violations

County	ID #	System Name	Chemical
LINCOLN	MO6010902	SILEX PWS	COMBINED RADIUM (-226 & -228)
LINCOLN	MO6030021	CHAMPION FARMS SUBDIVISION	GROSS ALPHA, EXCL. RADON & U
LINCOLN	MO6030021	CHAMPION FARMS SUBDIVISION	COMBINED RADIUM
MCDONALD	MO5010449	LANAGAN PWS	COMBINED RADIUM
OZARK	MO5024444	OZARK COUNTY PWSD 1	GROSS ALPHA, EXCL. RADON & U
OZARK	MO5024444	OZARK COUNTY PWSD 1	COMBINED RADIUM (-226 & -228)
ST. FRANCOIS	MO4010456	LEADWOOD PWS	GROSS ALPHA, EXCL. RADON & U
ST. FRANCOIS	MO4010456	LEADWOOD PWS	COMBINED RADIUM

Appendix A Health Based Compliance

V. Surface Water Violations

The following systems violated the Surface Water Rule, Treatment Technique for Turbidity or other surface water requirements in the months or annual period indicated.

County	ID #	System Name	Period	Violation
ADAIR	MO2010097	BRASHEAR PWS	June-December	Failure Address Deficiency
CASS	MO1010301	GARDEN CITY PWS	January	Combined Filter Effluent Turbidity
JACKSON	MO1010415	KANSAS CITY PWS	March	Failure to Provide LT2 Treatment
LAFAYETTE	MO1010464	LEXINGTON PWS	June	Combined Filter Effluent Turbidity
LAFAYETTE	MO1010464	LEXINGTON PWS	March	Combined Filter Effluent Turbidity

APPENDIX B

Chronic Major Monitoring Violators

The following systems had 3 or more major monitoring violations of the Revised Total Coliform Rule in 2019.

County	System Name	PWS ID #	Months
BARRY	MITCHELS PLAZA	MO5210653	June, July, October
BARRY	PARADISE VALLEY CAMPING CLUB	MO5243077	April – May, August
BENTON	AMERICAN LEGION POST 217	MO3281109	January-February, September
BENTON	HEADWATERS MOTEL	MO3190902	January, June, December
BENTON	JESTERS HOUSE	MO1212836	February, June, October, November
BENTON	PUMP N MUNCH	MO1292877	February, April, November
BENTON	REEL & TRIGGER RESORT	MO3190260	February, May, August-December
BUTLER	NEELEY VILLE PWS	MO4010993	January-February, September, November
CAMDEN	AROUND THE BEND BARBQ	MO3212580	June, October-November
CAMDEN	BASS COVE LODGE	MO3218227	May-July
CAMDEN	BAYMONT INN & SUITES	MO3190958	February-April, August
CAMDEN	LITTLE NIANGUA CAMPGROUND	MO5242623	May-July, September
CAMDEN	RED FOX BAR & GRILL	MO3212446	February-March, November
DALLAS	RIDGEVIEW ESTATES	MO5033116	January-May, July, September-October
DOUGLAS	FRATERNAL ORDER OF EAGLE 3748	MO5218158	May, July, September
HOWARD	GLASGOW PWS	MO2010308	April-May, July
JEFFERSON	A & H COUNTRY ESTATES	MO6048200	January-June
JEFFERSON	PARSONS OIL COMPANY LLC	MO6292713	June, August-September, November
JEFFERSON	PRO STOP	MO6292691	February, April-June, October-November
LACLEDE	COMPETITION GENERAL STORE	MO5212762	April, June-July
LINCOLN	TIMBER RIDGE ESTATES	MO6031217	January-May
MCDONALD	ELK O VUE RIVER PARK MHP	MO5041094	February-March, May-June, September-October
MILLER	EVELYNS RESTAURANT AND BAR	MO5212698	May-July, September
MILLER	LOOK OUT POINT SUBDIVISION	MO3036018	October-December
MILLER	OLD TOWNOSAGE	MO5212967	January-February, July
MISSISSIPPI	ANNISTON PWS	MO4010018	April, October, November
MORGAN	THE VILLAS OF HARBOUR HILLS	MO5031482	April, June-July, November
NEWTON	BOONDOCKS ENTERPRISES LLC	MO5041190	June-July, September, November

OZARK	OUTPOST RANCH HOUSE	MO5212896	May-July
PEMISCOT	HAYTI HEIGHTS PWS	MO4010959	January, July, October
PETTIS	CAMP BRANCH BAPTIST CHURCH	MO1272873	February, April, December
PETTIS	CRESTVIEW MHP	MO3048254	January-December
PUTNAM	LAKE THUNDERHEAD	MO2036165	March, July, November
REYNOLDS	SUNSET POINT RESORT	MO4190876	June-August
ST. CHARLES	WILDSCHUETZ BROTHERS FARM	MO6213205	February, April-May, September
ST. CLAIR	OSCEOLA PUBLIC SCHOOL	MO5171551	June-July, November
ST. FRANCOIS	FARMINGTON AMVETS POST 113	MO4250576	April, June, September, November, December
STONE	KINGDOM HEIGHTS	MO5031103	February-June, September-October
STONE	WHITE OAK STATION #6	MO5258122	April, June-July, December
TANEY	AREA 71 BRANSON	MO5211978	April, June, December
TANEY	GATEWAY TO BRANSON EXPRESS STOP	MO5292590	January, June, September, November
TANEY	JARRMIC LLC	MO5283168	January, April-May
TANEY	SENIOR FRIENDSHIP SITE	MO5218056	January, May, November
TANEY	SOUTH BRANSON BUSINESS CENTER	MO5182954	April-June
TANEY	TANEY COUNTY MEMORIAL POST 5168	MO5218299	May, August-September
WEBSTER	DOGWOOD TAVERN	MO5213087	January, April, June, September

MISSOURI



**NATURAL
RESOURCES**

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